

CLAIMS

1. A method for confining a liquid (14, 32, 60) in at least one area (2, 20) of a substrate (4, 22, 56), this method
5 been characterized in that:

- a treatment is applied to the surface of this substrate, capable of creating on this surface, at least one area (2, 20), the wettability of which by the liquid is larger than that of the surroundings of this area on the surface,

10 - the substrate is immersed in the liquid (14, 32, 60), and

- this substrate is removed from the liquid,

wherein, before applying the treatment to the surface of the substrate, a cavity (40) intended to contain the liquid is
15 further formed in the area, this cavity including a single aperture (41).

2. The method according to claim 1, wherein rough features (8, 26) are further created on the area or on the
20 surroundings of this area or on both of them.

3. The method according to claim 1, wherein the cavity (40) is filled by immersing the substrate (56) in the liquid (60), then by lowering the pressure above the liquid from
25 atmospheric pressure to a pressure less than the saturation vapor pressure of this liquid, subsequently by re-establishing the atmospheric pressure and then by removing the substrate from the liquid.

30 4. The method according to claim 1, wherein the cavity (40) is filled by placing the substrate (56) in a vacuum chamber (66), then applying vacuum in this chamber, subsequently by injecting the liquid (60) into the chamber, up

to total immersion of the substrate, then by re-establishing atmospheric pressure in the chamber and then removing the substrate from the liquid.

5 5. The method according to claim 1, wherein the applied surface treatment is capable of making the area both lipophobic and hydrophobic.

10 6. The method according to claim 5, wherein this surface treatment comprises the deposition of a polytetrafluoroethylene layer on this area.

15 7. The method according to claim 1, wherein the liquid comprises oil (14) and a treatment is applied to the area, capable of making the latter lipophilic.

20 8. The method according to claim 1, wherein the liquid comprises water and a treatment is applied to the area, capable of making the latter hydrophilic.

25 9. A device for confining a liquid (14, 32, 60) in at least one area (2, 20) of a substrate (4, 22, 56), this device being characterized in that the wettability of the area by the liquid is larger than that of the surroundings of this area on the surface, and in that rough features (8, 26) are formed on the area or on the surroundings of this area, or on both of them, wherein the area includes a cavity (40) intended to contain the liquid (60), this cavity including a single aperture (41).

30 10. The device according to claim 9, wherein the area is both lipophobic and hydrophobic.

11. The device according to claim 10, wherein a polytetrafluoroethylene layer is formed on this area.